

ENERGY CAPITAL



Overview
June 2017
BSC LCWG

www.energycapital.org.uk



Agenda

- What is Energy Capital?
- Why a focus on energy?
- How we plan to deliver?
- Net-Form and UGC



Energy Capital is all about supporting economic development

- 1. Making the WM the most attractive region to base and grow innovative energy businesses**
- 2. Delivering more competitive fuel and power to WM businesses and people**

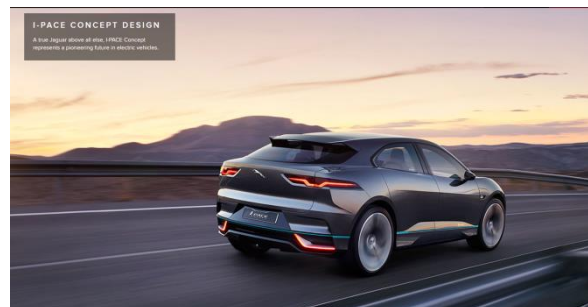
This will be achieved through:

- Partnership and collaboration
- Exploiting our natural advantages and strengths
- Market-making



There is a significant opportunity and set of needs in the energy sector

- \$2.7 trillion global market
- Step change driven by smart technologies (low cost IT) and storage, plus renewables
 - System optimisation becomes economic at a much smaller scale
- Everyone needs **competitive** energy
- Convergence between sectors
 - Energy
 - Transport
 - Construction
 - Digital



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ENGIE

Keepmoat sells regeneration business for £330m
2 March 2017 8:33 am | By Pete Apps

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Keepmoat has sold the regeneration arm of its business to a French energy services company in a deal valued at £330m.

Engie announced the acquisition this morning. It will see it take over the business, which is one of the major providers of repairs services to councils and housing associations in the UK.

All 2,500 employees in Keepmoat's regeneration business will move over to join Engie, along with Keepmoat's current chief executive, Dave Sheridan.

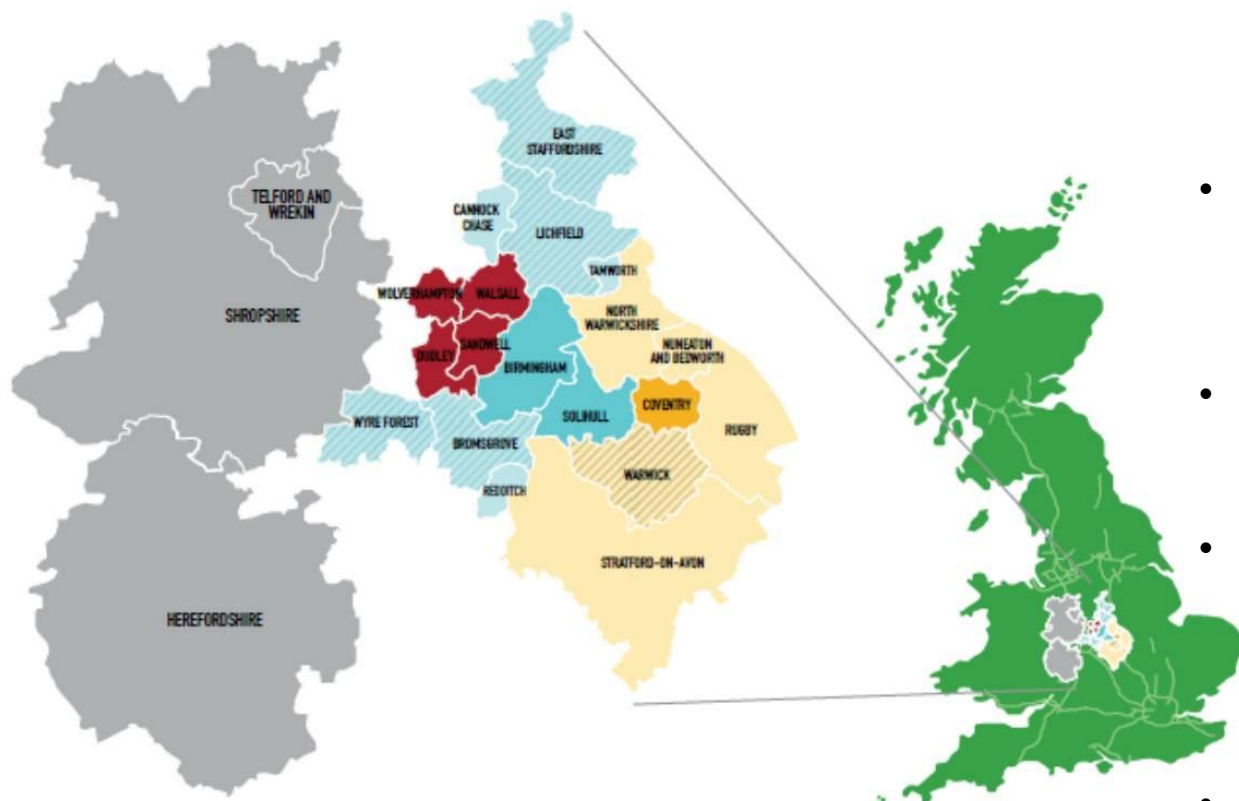
Mr Sheridan told *Inside Housing*: "It will still be the same team, the same people. But what clients will see is a business with a stronger balance sheet."

"We are still focused on place, of which energy services will be a key part. It means we will have more strings to our bow to look at how we can help local authorities really transform these areas."



We have a unique opportunity in the *West Midlands*

POLITICAL INTEGRITY AND COHERENT LEADERSHIP



A STRONG SENSE OF 'PLACE'

- **Devolution**
- **High value manufacturing**
 - Specialist foundries and castings
 - Advanced automotive (Tier 1)
 - Aerospace
- **Transport technologies**
 - Rapidly expanding JLR
 - Premium and R&D-led automotive
- **Energy infrastructure**
 - Centre of UK electricity and gas networks and industries
- **Dense and diverse urban market**
 - £10bn energy spend
 - £2.5bn energy infrastructure
 - £10bn housing planned
 - HS2 terminals
- **Adjacent rural hinterland**
 - Attractive place to live

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Our launch and early projects provide some of the best examples yet of cross-WMCA collaboration and partnership

Energy

nationalgrid

WESTERN POWER DISTRIBUTION
Serving the Midlands, South West and Wales

encraft
securing your energy future

Construction

COSTAIN

SHAP
sustainable housing action partnership

SEVERN TRENT

Manufacturing

JAGUAR

Webster Horsfall & Co est. 1720

Westley Group

Transport

LAND-ROVER



cenex

Public sector and universities

Aston University
Birmingham

BIRMINGHAM ENERGY INSTITUTE

CWLEP Coventry & Warwickshire
Enterprise Partnership

UKCENTRAL SOLIHULL Urban Growth Company

UNIVERSITY OF BIRMINGHAM

ERF ENERGY RESEARCH ACCELERATOR

WEST MIDLANDS COMBINED AUTHORITY

THE UNIVERSITY OF WARWICK

Locally-driven demand

Black Country LEP

Birmingham City Council

Coventry City Council

CATAPULT
Energy Systems

Greater Birmingham & Solihull Local Enterprise Partnership

sustainability west midlands

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Market-making is critical to the success of (energy) innovations and we can now do this much better

- The UK has a lousy track record (e.g., Graphene) – too much “supply push”
- Energy (technology) markets are made (and destroyed) **by regulations, infrastructure and people (demand)**
- Clever technology and brilliant universities are not enough
- PLACE – is key to energy systems innovation and creating meaningful industrial eco-systems
- WM Places are attractive for energy systems and our diversity is an asset. They are big enough to support ***industrial clusters***, *not just demonstrators*.
- The concept to seize this opportunity being promoted by Energy Capital is ***‘Energy Innovation Zones’*** – low risk regulatory experimentation



We plan to establish large ‘energy innovation zones’ (EIZ) to provide platforms for commercialisation

- In discussion with Ofgem (Future Markets); National System Operator; Distribution Network Operators; BEIS
- Strong alignment of regional industry and political leaders

Energy Innovation Zone(s) (EIZ)

- Regulatory ‘sandbox’
- Bespoke infrastructure and business models
 - Public/customer/political engagement
 - Investment incentives
 - Supervised governance/evaluation
- Commercially worthwhile scale – beyond a pilots or demonstrators



New devolved UK political structures are allowing us to secure public sector support and invest in infrastructure

- West Midlands Combined Authority with devolved powers
 - New Mayor
 - Powers over clean air, housing, hopefully energy
- Business-led Local Enterprise Partnerships (LEPs) in the WM invested over £800m since 2012, further £100m about to be released
 - Leveraging >£2bn of private investment
 - Facilitating more commercially-beneficial relationships between universities and local industry and people
- Pragmatic and place-focused civic leadership, cutting through national political challenges



We are focused on creating an optimal context to develop and grow new industrial markets and businesses

Energy Capital Steering Group

- Political & Regulatory, Investment and Marketing support

Political and Regulatory

EIZs (local market regulation)

Influence over local policies affecting energy (e.g., planning)

Public funding

Investment

Ring-fenced investment fund

Venture fund

Opportunities

Infrastructure data and masterplanning

Marketing

Joint branding

Communications

Inward Investment

Skills and training

Professional development

Engagement

Local supply chains

Market making

Community energy engagement

Public support



Energy Capital is driven by local markets and strongly supported by our world-class regional universities

Individual customers with economic needs

Commercial opportunity
Comfort and well-being



Commercial scale local markets created through geographic shared interest

Shared infrastructure
Shared regulation
Shared place

Knowledge base

University of Aston
University of Birmingham
Birmingham City University
University of Coventry
University of Warwick
University of Wolverhampton



Skills base and history

Manufacturing
Energy
Automotive
Diversity



Global partners

Innovations
Experience
Opportunity



Across the region, we already have significant projects developing and delivered

- Transport and grid services
- Major energy efficient refurbishment and smart energy opportunities
- Powering Growth
- Tyseley Energy Park



When energy and transport markets converge

NET-FORM

THE SMART WAY TO PARK

Thousands of parked EVs create MW-scale battery storage

Net-Form controls the charging and discharging of EV batteries and uses blockchain technology to ensure car drivers are rewarded for grid services provided. It communicates with the electricity markets and holds data on weather and driver movements to ensure vehicles are fully charged while minimising stress on the wider energy system.

Applications of Net-Form range from large scale car parks like UKCentral through to car parks in business parks and large employment sites. The technologies and services developed through this project have potential global application.

At peak times, offices and factories are powered by car parks

By 2026, more than half the cars sold in the UK are likely to be electric or hybrid vehicles (EVs)¹. This means that the high density car parks at our stations, hotels, offices and airports will become MW scale battery storage parks, creating both massive challenges for the electricity networks and new commercial opportunities for entrepreneurs.

Net-Form is a pilot project to develop a mobile web application and secure data platform to manage massed parked hybrid and electric vehicles and optimise their value to both network operator and car owner.

Led in the West Midlands by Encraft, an initial 12-month feasibility study is exploring the application of Net-Form to the new HS2 interchange station in Solihull (UKCentral). Project partners are Aston University, Cenex, Costain and Solihull Metropolitan Borough Council. Net-Form is more than 50% funded by Innovate UK, the UK's Innovation agency, as part of the Energy Game Changer competition.

¹ Industry and government forecasts.

Clean local power is used to charge the EVs

A mobile web app ensures drivers stay in control

Fewer power stations mean more amenity space for people



Innovate UK



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We work in partnership and welcome innovation and approaches from all over the world

For more details:

<https://www.youtube.com/watch?v=sq4zeyvi5Cw>

www.energycapital.org.uk

enquiries@energycapital.org.uk

Thank you